

AMENDMENTS TO THE DRAWINGS

The Examiner objected to Figure 1 of the drawings because Figure 1 fails to show reference number 10 described in the specification. Replacement Figure 1 is submitted herewith addressing this objection.

REMARKS

Claims 1-30 were presented for examination. Claims 1-26 stand rejected and claims 27-30 were rejected. In the present amendment, claims 11, 19, and 28 are amended. No new matter was introduced. Upon entry of the present amendment, claims 1-30 will be pending in this application, of which claims 1, 10, 19, 23, and 27 are independent. Applicants submit that pending claims 1-30 are in condition for allowance.

The following comments address all stated grounds of rejection. Applicants urge the Examiner to pass the claims to allowance in view of the remarks set forth below.

Drawing Amendments

The Examiner objected to the drawings as failing to comply with 37 C.F.R. 1.84(p)(5) because Figure 1 does not include reference label 10 mentioned on page 7 of the specification. Figure 1 is hereby amended to include the reference number 10 as described in the specification. Applicants submit that the above drawing amendments are not directed to any art rejection. No new matter has been introduced.

Claim Amendments

Claim 11 has been amended to address issues with antecedent basis identified in the Examiner's claim rejections under 35 U.S.C. §112 as discussed below. Claim 11 has been amended to address the Examiner's objection to the informality of ending the claim in a comma instead of a period. Additionally, Applicants hereby amend claim 19 to address the informality of also ending claim 19 in a comma instead of a period. Claim 28 has been amended to clarify Applicants' claimed invention. No new matter has been introduced. Applicants submit that the presently pending claims are in condition for allowance.

Claim Rejections Under 35 U.S.C. §112**I. Claim 11 Stands Rejected under 35 U.S.C. §112**

Claim 11 is rejected under 35 U.S.C. §112, second paragraph, as not particularly pointing out and distinctly claiming the subject matter to which Applicants regard as their invention. Applicants respectfully traverse this rejection and submit that the amendment to claim 11 addresses the Examiner's rejection.

The Examiner rejects claim 11 for reciting a claim limitation of "the selection" without antecedent basis. Additionally, the Examiner objects to claim 11 because of the informality of ending the claim with a comma instead of a period. Accordingly, claim 11 is hereby amended to correct these deficiencies. In light of the aforementioned amendment, Applicants submit claim 11 particularly points out and distinctly claims the subject matter to which Applicants regard as their invention. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw the rejection of claim 11 under 35 U.S.C. §112.

Claim Rejections Under 35 U.S.C. §102**II. Claims Stand Rejected Under 35 U.S.C. §102 as Anticipated By Ciolfi**

Claims 1, 4, 5, 10, 13, 14, 19 and 23-26 stand rejected under 35 U.S.C. §102(e) as anticipated by the reference of U.S. Publication No. 20030107595 to Ciolfi ("Ciolfi"). Applicants respectfully traverse this rejection.

Applicants note to the Examiner that Applicants and their Attorneys are thoroughly familiar with the Ciolfi reference as it is a co-pending application of the assignee of the instant application, which Attorneys for the Applicants are also prosecuting.

For ease of the discussion, summaries of the claimed invention and the Ciolfi reference are provided below.

A. Summary of Claimed Invention

The claimed invention is directed towards generating a report about source code associated with a graphical model, such as a block diagram model, provided by a graphical modeling environment. The report is generated to include a hyperlink referencing an element of the block diagram model, such as a block. A hyperlink is a selectable connection from one element to another element, such as from one word, picture, or information object to another. The selectable portion of the hyperlink may be referred to as the anchor and comprise an anchor address or a Uniform Resource Locator (URL) identifying an electronic link to a resource. A hyperlink may be highlighted to indicate the connection is selectable, which may be selected by a user via an input device such as a mouse. The selection of a hyperlink causes a jump or electronic navigation to the anchor address or URL, such as another location in a document or another document, to access and display the information associated with the URL. For example, a hyperlink may be provided via a highlighted word in a document that can be selected by a user to electronically navigate to a URL. This allows a user to easily and interactively jump from a location in a document to another location to access and view the information referenced by the hyperlink. As such, hyperlinks provide an interactive mechanism to quickly change what the user is viewing.

In the claimed invention, a hyperlink may be provided in a portion of a report describing source code related to the element of the block diagram model referenced by the hyperlink. For example, when the source code report is generated, a hyperlink may be generated in the source code report to reference an element of the block diagram model. The claimed invention provides an anchor address or URL for the hyperlink that allows electronic navigation to the element of the block diagram model in the graphical modeling environment. In viewing the report related to the source code, the hyperlink can be selected which results in electronic navigation to the element of the block diagram model to which the source code is

related. The element of the block diagram model may be displayed and highlighted in the graphical modeling environment. As such, the present invention provides systems and method for easier access and more direct navigation from a report about the source code of the graphical model to elements of the graphical model associated with the source code.

B. Summary of Ciolfi

The Ciolfi reference is directed towards improving the processing of parameters in a block diagram modeling environment. In this context, parameters are part of the description of the block diagram model and influence how the model executes or operates. For example, the processing of parameter provides more efficient execution by pooling parameters. Ciolfi describes a block diagram processing engine for processing the parameters for model execution (also referred to as simulation) and automatic code generation.

In Ciolfi, the block diagram processing engine (26, Figures 1 and 6) receives a block diagram model as input and creates an executable model either in memory or via generated code (page 4, Paragraph 50 and Fig. 6). The block diagram processing engine uses a text processing utility to provide source code for blocks of the block diagram model (page 8, paragraph 78). During code generation, a file may define the source code to be generated for a block of the block diagram (page 8, paragraph 80). For example, in the case of an S-function block, a file may define the format of the block output as provided by the example file defining the source code for the block output function as cited on page 8, paragraph 80 of Ciolfi. The cited text of the file provides input to the text processing utility to direct the block diagram processing engine to generate source code for the block output using the information from the file. The cited text does not provide hyperlinks as in the claimed invention.

The block diagram processing engine (page 4, paragraph 50, and Figure 6) compiles (92, Figure 6) the model into a set of executable instructions or operations that may be referred to as an intermediate representation. The block diagram compile phase (92, Figure 6) takes as input the block diagram model and generates as output an intermediate representation of how to execute the model. The block diagram linking phase (96, Figure 6) takes as input the output of the block diagram compile phase (92, Figure 6) and allocates working areas so the model can be executed, or transformed into generated code (98, Figure 6). As such, the block diagram processing engine does not provide hyperlinks as in the claimed invention but instead processes a block diagram model into an intermediate representation for execution or code generation.

Ciolfi is not concerned with a user's experience related to accessing and changing views of information by selecting a hyperlink in a user interface to electronically navigate to information provided by a URL of the hyperlink. Nowhere in Ciolfi does Ciolfi explicitly or inherently discuss, describe, or refer to hyperlinks. Rather, Ciolfi describes the internal structure and implementation of a block diagram processing environment to handle parameters for code generation and building programs from block diagram models. Instead of describing a hyperlink in a source code report to change the user's view to an element in a block diagram model, Ciolfi describes generating source code for a block diagram model via input files and using a utility program to compile code into an executable form.

C. Patentability of Independent Claims 1, 10, 19, and 23

Independent claims 1, 10, 19, and 23 are directed to a method, system, computer program and apparatus, respectively. These independent claims recite generating source code corresponding to a block diagram model, and *generating hypertext links associating elements of the generated source code with elements of the block diagram model.*

Ciolfi does not disclose *generating hypertext links associating elements of the generated source code with elements of the block diagram model*. Rather, as discussed above, Ciolfi generates source code for a block diagram model via a text processing utility receiving input files, compiles the source code, and maps the compiled code to memory areas to provide an executable. As such, Ciolfi is not concerned with using a hyperlink to allow a user to change to a view of an element of a block diagram model from generated source code corresponding to the block diagram model. In the Office Action, the Examiner indicates that Ciolfi demonstrates links which are generated to associate source code with the block diagram and that hypertext links are a means of links. The Examiner cites in Ciolfi the text of page 8, paragraph 76, and the text of page 4, paragraph 50 as disclosing the hypertext links of the claimed invention. Applicants contend that Ciolfi does not disclose *hypertext links associating elements of the generated source code with elements of the block diagram model* as in the claimed invention.

Page 8, paragraph 76 and the cited text of Ciolfi referred to by the Examiner in the Office Action illustrates content of an input file for providing information to the text processing utility of the block diagram processing engine for source code generation (see page 8, paragraph 80 of Ciolfi). The cited text does not disclose linking or hypertext links as in the claimed invention. Rather, the cited text describes content of a file that provides source code of the block output function for an S-function block. In the claimed invention, a hypertext link provides a selectable connection that *associates an element of the generated source code with an element of the block diagram model*. In contrast, the cited text of Ciolfi does not disclose such a selectable connection, but instead provides source code to be provided for a block of a block diagram model. Thus, page 8, paragraph 76 and the text of Ciolfi cited by the Examiner fails to disclose *hypertext links associating elements of the generated source code with elements of the block diagram model*.

Page 4, paragraph 50 of Ciolfi referred to by the Examiner in the Office Action describes a linker program used during the compilation process to provide an executable form of the block diagram model for simulation. Instead of generating a hyperlink *associating elements of generated source code with elements of the block diagram model*, the program of Ciolfi maps a compiled representation of the block diagram model to memory areas for enabling model execution or for transforming the model to generated code. Mapping the compiled representation of the model to memory areas is part of the process to generate an executable form of the model and is not related to user navigation via a hyperlink. As such, the code mapping program of Ciolfi does not provide electronic navigation via a selectable connection between elements of the generated source code and elements of the block diagram model as in the claimed invention. Thus, page 4, paragraph 50 of Ciolfi cited by the Examiner fails to disclose *hypertext links associating elements of the generated source code with elements of the block diagram model*.

Furthermore, Applicants respectfully note to the Examiner that only one reference should be used in making a rejection under 35 U.S.C. §102 (see MPEP §2131.01). In the Examiner's response to arguments (see page 15 of the Office Action), the Examiner states that Ciolfi teaches linking code to the model and that hypertext links are a well-known form of linking. As Ciolfi does not disclose hypertext links, the Examiner cites hypertext links as a form of linking to provide extrinsic evidence and a second reference to fill in the gap of the Ciolfi reference. However, such evidence must make clear that the missing descriptive matter of hypertext links is inherently present in the linking described in the reference, and that it would be so recognized by those ordinary skilled in the art.

Applicants respectfully disagree with the Examiner that Ciolfi teaches linking and that hypertext links are inherently a means of linking as described by Ciolfi. Associating source code with a block of a block diagram model for code generation (page 8, paragraph 76,

Ciolfi) and using a compilation program to map compiled code to memory areas to form an executable (page 4, paragraph 50, Ciolfi) do not equate to linking as in the claimed invention. In Ciolfi, after generating the source code from a block diagram model provided as input to the block diagram processing engine, the generated source code is compiled to provide object code and the object code mapped to memory to form an executable. Neither the generated source code, the object code, nor the executable of Ciolfi provide any linking from their respective forms to the block diagram model which was provided as input to the block diagram processing engine. Instead, the source code, object code, and executable form provide different forms of representing functionality of the block diagram model during the executable building process. Thus, Ciolfi does not disclose or teach linking that associates generated source code with elements of the block diagram model as in the claimed invention.

Moreover, one ordinarily skilled in the art would not recognize that a hypertext link is inherently present in the linking cited by the Examiner in Ciolfi. One ordinarily skilled in the art would not equate the hypertext link of the claimed invention to the input file of Ciolfi associated with code generation of a block diagram model or to the code mapping program of Ciolfi for compiling an executable. A hypertext link is a selectable connection which may be selected by a user via an input device such as a mouse to interactively change the user's view of information. For example, a highlighted portion of the generated source code may be selected to take the user to the corresponding element of the block diagram model. The hypertext link of the claimed invention provides a selectable connection *associating elements of the generated source code with elements of the block diagram model*. Ciolfi does not describe any linking that provides such a selectable connection. Thus, Ciolfi does not disclose or teach any form of linking that may be equated to the hyperlink text of the claimed invention.

For at least the aforementioned reasons, Ciolfi fails to disclose *generating hypertext links associating elements of the generated source code with elements of the block diagram model*. Claims 4 and 5 depend on and incorporate all the patentable limitations of independent claim 1. Claims 13 and 14 depend on and incorporate all the patentable limitations of independent claim 10. Claims 24-26 depend on and incorporate all the patentable limitations of independent claim 23. Thus, Ciolfi fails to detract from the patentability of claims 4, 12, 14, and 24-26. Accordingly, Applicants respectfully request the Examiner to reconsider and withdraw the Examiner's rejection of claims 1, 4, 5, 10, 13, 14, 19, and 23-26 under 35 U.S.C. §102.

Claim Rejections Under 35 U.S.C. §103

III. Claims 27-30 Rejected under 35 U.S.C. §103 as Unpatentable

Claims 27, 28, and 30 are rejected under 35 U.S.C. §103 as unpatentable over Ciolfi in view of U.S. Publication No. 20020129058 to Story et al. ("Story"). Claims 28-30 depend on and incorporate the patentable subject matter of independent claim 27. Claim 29 is rejected as unpatentable over Ciolfi in view of Story in further view of U.S. Publication No. 2003137522 to Kaasila et al. ("Kaasila"). Applicants respectfully traverse these rejections.

Independent claim 27 recites a method for providing source code identifying an element of a graphical model, and generating a document comprising information about the source code. This claim further recites *providing, in the document, a hyperlink referencing the element of the graphical model*. That is, the method generates a document about source code identifying an element of the graphical model and the document includes a hyperlink referencing the element of the graphical model.

Ciolfi in view of Story does not teach or suggest *providing a hyperlink referencing the element of the graphical model*. For the reasons discussed above in connection with the

rejection under 35 U.S.C. §102, Ciolfi does not disclose *providing a hyperlink referencing an element of the graphical model*. Furthermore, Ciolfi does not teach or suggest *providing a hyperlink referencing an element of the graphical model*. The Examiner cites Story in the Office Action for the purpose of suggesting one ordinarily skilled in the art might modify Ciolfi to generate a document comprising information about source code and provide the hyperlink in the document. However, Story fails to bridge the factual deficiencies of Ciolfi. Neither Ciolfi nor Story, alone or in combination, disclose, teach, or suggest *providing a hyperlink referencing an element of the graphical model*.

For at least the aforementioned reasons, Ciolfi in view of Story fails to teach or suggest each and every element of independent claim 27. Claims 28-30 depend on and incorporate the patentable subject matter of claim 27. As such, Ciolfi fails to detract from the patentability of claims 28-30. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw the Examiner's rejection of claims 27-30 under 35 U.S.C. §103.

IV. Dependent Claims Rejected Under 35 U.S.C. §103 as Unpatentable

Claims 2, 7, 11, and 16 stand rejected under 35 U.S.C. §103 as unpatentable over Ciolfi in view of U.S. Publication No. 20020054138 to Hennum ("Hennum"). Claims 3 and 12 stand rejected under 35 U.S.C. §103 as unpatentable over Ciolfi in view of Hennum and in further view of U.S. Patent No. 6,049,835 to Gagnon ("Gagnon"). Claims 6, 8, and 15 stand rejected under 35 U.S.C. §103 as unpatentable over Ciolfi in view of U.S. Publication No. 20020072049 to Prahalad ("Pralhad"). Claims 9 and 18 stand rejected under 35 U.S.C. §103 as unpatentable over Ciolfi in view of U.S. Publication No. 20030120549 to Lindner ("Lindner"). Claim 17 stands rejected under 35 U.S.C. §103 as unpatentable over Ciolfi in view of Hennum in further view of Prahalad. Claims 20-22 stand rejected under 35 U.S.C.

§103 as being unpatentable over Ciolfi in view of U.S. Patent No. 6,493,740 to Lomax (“Lomax”). Applicants respectfully traverse these rejections.

None of the cited references, including Ciolfi, alone or in combination, disclose, teach, or suggest each and every feature of independent claims 1, 10, 19, and 23. As discussed above in connection with the rejection under 35 U.S.C. §102, Ciolfi does not disclose *generating hypertext links associating elements of the generated source code with elements of the block diagram model*. Furthermore, Ciolfi does not teach or suggest *generating hypertext links associating elements of the generated source code with elements of the block diagram model*. None of the Examiner cited references, including Hennum, Gagnon, Prahalad, Lindner, and Lomax, bridge the factual deficiencies of the Ciolfi reference, and thus do not detract from the patentability of these independent claims. As such, Applicants contend that independent claims 1, 10, 19, and 23 are patentable and in condition for allowance.

Claims 2, 3, and 6-9 depend on and incorporate the patentable subject matter of independent claim 1. Claims 11, 12, and 15-18 depend on and incorporate the patentable subject matter of independent claim 10. Claims 20-22 depend on and incorporate the patentable subject matter of independent claim 23. As such, Applicants submit dependent claims 2, 3, 6- 9, 11, 12, 15-18, and 20-22 are patentable and in condition for allowance. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw the Examiner’s rejection of claims 2, 3, 6- 9, 11, 12, 15-18, and 20-22 under 35 U.S.C. §103.

V. Patentability of Dependent Claims 2 and 11

In addition to the patentable limitations of independent claims 1 and 10 respectively, the further recitation in dependent claims 2 and 11 provide a separate further basis for patentability. Dependent claims 2 and 11 recite displaying the source and hypertext links on

a display, receiving input from a user representing a selection of one of the hypertext links, and *displaying to the user at least a portion of the block diagram model including an element of the model associated with the hypertext link*. In the rejection of these dependent claims in the Office action, Hennum is used only to suggest one ordinarily skilled in the art might modify Ciolfi to display source code and associated information when a user selects a link. In the Office Action, the Examiner also contends that it is well-known that linked associated information could include diagrams or selected portions of diagrams.

Ciolfi in view of Hennum does not teach or suggest *displaying to the user at least a portion of the block diagram model including an element of the model associated with the hypertext link*. Furthermore, Applicants submit that it is not well-known that a hyperlink text can provide a selectable connection to portions of a block diagram model. To display a portion of the block diagram model associated with the hypertext link as in the claimed invention, an anchor address or URL to electronically navigate to the block diagram model in the block diagram modeling environment must be provided in the hyperlink. It is not well-known to those skilled in the art, and neither Ciolfi nor Hennum teach or suggest a hyperlink having a URL providing electronic navigation to a block diagram model in a block diagram modeling environment. As such, Ciolfi in view of Hennum fails to teach or suggest a hypertext link for *displaying to the user at least a portion of the block diagram model including an element of the model associated with the hypertext link*.

Therefore, Applicants submit that Ciolfi in view of Hennum does not detract from the patentability of claims 2 and 11. Accordingly, Applicants respectfully request the Examiner to withdraw the rejection of claims 2 and 11 under 35 U.S.C. §103.

CONCLUSION

In view of the remarks set forth above, Applicants contend each of the presently pending claims in this application is in immediate condition for allowance. Accordingly, Applicants respectfully request the Examiner to pass the claims to allowance.

If the Examiner deems there are any remaining issues, we invite the Examiner to call the Applicants' Attorney at the telephone number identified below.

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